

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

K. SHIMADA et al

Serial No. 10/780,772 Group Art Unit: 2189

Filed: February 19, 2004 Examiner: H.L. FLOURNOY

For: STORAGE HAVING LOGICAL PARITIONING CAPABILITY AND SYSTEMS WHICH INCLUDE

THE STORAGE

## INFORMATION DISCLOSURE STATEMENT (IDS) UNDER § 1.97 AND § 1.98

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

May 25, 2006

Sir:

## 1. This IDS should be considered:

- (a) when filed within three months of the filing date of the present application, or within three months of the filing date of the National Stage as set forth in § 1.491 in an international application, or before the mailing date of a first Office Action on the merits, whichever occurs last;
- (b) when filed before the mailing date of either a Final Rejection under § 1.113 or a Notice of Allowance under § 1.311, whichever occurs first and when 1(a) does not apply. For this purpose, there is included herein either a certification in section 4 below (included when indicated by a marked box), or a fee of \$180.00 (a check in the amount of \$180.00 is enclosed, or if not see section 5 below);
- (c) when filed prior to the payment of the Issue Fee, when 1(a)-(b) do not apply, and when a certification is included in section 4 below (included when indicated by a marked box); then the Applicant(s) hereby petition(s) and request(s) consideration of this IDS, and provided herewith is a fee of \$180.00 (a check in the amount of \$180.00 to cover the petition fee, or if not see section 5 below).
- 2. When 1(a)-(c) do not apply, then it is requested that this IDS be placed in the file.

- 3. Listing of the information submitted is on the attached Form PTO-1449, which forms a part of this IDS. A copy of each listed document is enclosed when needed (needed for U.S. and foreign patents, publication or portion thereof listed; no copy of a U.S. patent application is needed; a copy of a document is not needed when previously submitted or previously cited by the PTO in a parent application of the present application as set forth under 35 U.S.C. § 120).
  - 4. The undersigned hereby states:
- $\square$  (a) that each item of information contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application, as indicated on the copy of the communication submitted herewith, which communication was dated not more than three months prior to the filing of this IDS; or
- $\square$  (b) that no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in § 1.56(c) more than three months prior to the filing of this IDS.
- 5. No explanation of relevancy is being provided for the documents listed in the attached PTO-1449 Form, because each is either in the English language and/or discussed in the present Specification. The references cited herein were cited in the parent application.
- 6. If a fee or additional fee is required, the Commissioner is hereby authorized to charge any fee or additional fee that may be required and credit any excess to Deposit Account No. 50-1417.

7. If the PTO determines that part(s) of the required content is inadvertently omitted, then it is requested that the Applicant(s) be given additional time and specific identification of such omission(s) to enable full compliance.

Respectfully submitted,

Daniel J Stanger

Registration No. 32,846 Attorney for Applicants

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 Diagonal Rd., Suite 370 Alexandria, Virginia 22314

(703) 684-1120

Date: May 25, 2006

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U.S. DEPARTMENT OF COMMERCE ATTY. DOCKET NO. PATENT AND TRADEMARK OFFICE ASA-5051

APPLICANT

SERIAL NO. 10/780,772

LIST OF DOCUMENTS CITED BY APPLICANT

(Use several sheets if necessary)

K. SHIMADA et al. FILING DATE February 19, 2004

GROUP 2189

## **U.S. PATENT DOCUMENTS**

|                     |    |                  |  | U.S. PATENT DOCUMENTS                             |              |          |                    |       |  |  |  |  |
|---------------------|----|------------------|--|---|--------------|----------|--------------------|-------|--|--|--|--|
| EXAMINER<br>INITIAL |    | DOCUMENT         | DATE   | NAME  | CLASS        | SUBCLASS | FILING<br>(If Appr |       |  |  |  |  |
|                     | AA | 6,502,162        | 12/31/02   | Blumenau et al                                    |              |          |                    |       |  |  |  |  |
|                     | АВ | 6,715,031        | 3/30/04  | Camble et al                                      |              |          |                    |       |  |  |  |  |
|                     | AC | 2002/<br>0095602 | 7/18/02  | Pherson et al                                     |              |          | ``                 |       |  |  |  |  |
|                     | AD | 2002/<br>0103913 | 8/01/02  | Tawil et al                                       |              |          |                    |       |  |  |  |  |
|                     | ΑE | 2002/<br>0104008 | 8/01/02  | Cochran et al                                     |              |          |                    |       |  |  |  |  |
|                     | AF | 2003/<br>0055972 | 3/20/03  | Fuller et al                                      |              |          |                    | -     |  |  |  |  |
|                     | AG | 2003/<br>0115447 | 6/19/03  | Pham et al  |              |          |                    |       |  |  |  |  |
|                     | АН | 2004/<br>0064729 | 4/01/04  | Yellepeddy  |              |          |                    |       |  |  |  |  |
|                     | ΑI | 2001/<br>0047482 | 11/29/01   | Harris et al                                      |              |          |                    |       |  |  |  |  |
|                     | AJ |                  |  |   |              |          |                    |       |  |  |  |  |
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|                     | AL | 2002-<br>149599  | 5/24/92  | JP (w English Abstract)                           |              |          |                    |       |  |  |  |  |
|                     | АМ | 5-128002         | 5/25/93  | JAPAN   |              |          |                    |       |  |  |  |  |
|                     | AN |                  |  |   |              |          |                    |       |  |  |  |  |
|                     |    |                  | OTHER DOCU   | MENTS (Including Author, Title, Date, Pertinent F | Pages, etc.) |          | •                  |       |  |  |  |  |
| -                   | AR | Buck, A          | A.L. et al   | , "The Storage Server as Virtual                  | Volume Ma    | nager",  |                    |       |  |  |  |  |
|                     | AK | IEEE Co          | IEEE Comput. Soc., April 1993, USA 26-29, pp. 79-86. |   |              |          |                    |       |  |  |  |  |
|                     | AS | Gelb,            | J.P., "Syst  | tem-Managed Storage", IBM Systems                 | Journal,     |          |                    |       |  |  |  |  |
|                     | 73 | Vol. 28          | 8, No. 1,  | Jan. 1989, pp. 77-103.                            |              |          |                    |       |  |  |  |  |
|                     | ΑΤ | Kaczmai          | rski, M. et  | al, "Beyond Backup Toward Stora                   | ge Manage    | ement",  |                    |       |  |  |  |  |
|                     | ^' | IBM Sys          | stems Journ  | nal, Vol. 42, No. 2, 2003, pp. 32                 | 2-337.       |          |                    |       |  |  |  |  |
| AMINER              |    | . <u>L</u>       |  | DATE CONSIDERED                                   |              |          |                    | _     |  |  |  |  |

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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| * EXAMINER<br>INITIAL       | 2                | DOCUMENT                             | DATE                     |                                       | NAME   | CL       | ASS         | SUBCLASS           |             | NG DATE<br>propriate) |
|                             | AA               | 5,657,470                            | 08/12/97                 | Fisherman et                          | al   |          |             |                    |             |                       |
|                             | АВ               | 6,275,824                            | 08/14/01                 | O'Flaherty et                         | al   |          |             |                    |             |                       |
|                             | AC               | 6,275,825                            | 08/14/01                 | Kobayashi et                          | al   |          |             |                    |             |                       |
|                             | AD               | 6,502,193                            | 12/31/02                 | Barber                                |  |          |             |                    |             |                       |
|                             | AE               | 2002/<br>0099837                     | 07/25/02                 | Oe et al                              |  |          |             |                    |             |                       |
| ,                           | AF               | 2003/<br>0023868                     | 01/30/02                 | Parent                                |  |          |             |                    |             |                       |
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|                             | AR               | "Freed                               | om Storage               | Lightning 990                         | 0 V Series", User an                           | nd Re    | efere       | nce Guide          | ⊋,          |                       |
|                             |                  | Hitach                               | i Data Sys               | tems Corp., 20                        | 02, pp. iii-124.                               |          |             |                    |             |                       |
|                             | AS               |                                      |                          |                                       |  |          |             |                    |             |                       |
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|                         | AA        | 6,275,898                 | 08/14/01                  | DeKoning                       |  |                   |                     |             |                     |
|                         | АВ        | 6,289,398                 | 09/11/01                  | Stallmo et a                   | 1  |                   |                     |             |                     |
|                         | AC        | 6,425,049                 | 07/23/02                  | Yamamoto et                    | al   |                   | <u> </u>            |             |                     |
|                         | AD        | 6,507,905                 | 01/14/03                  | Hubacher et                    | al   |                   |                     |             |                     |
| -                       | AE        | 6,519,679                 | 02/11/03                  | Devireddy et                   | al   |                   |                     |             |                     |
|                         | AF        | 6,615,324                 | 09/02/03                  | Fernald                        |  |                   |                     |             |                     |
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|                          | AA                   | 6,665,786                              | 12/16/03                | McMichael et                        | al   |                    |                    |              | _                 |
|                          | АВ                   | 6,728,836                              | 04/27/04                | Lambright et                        | al   |                    |                    |              |                   |
|                          | AC                   | 6,772,287                              | 08/03/04                | Uchiyama et                         | al   |                    |                    |              |                   |
|                          | AD                   | 6,851,022                              | 02/01/05                | Ikeuchi et a                        | 11   |                    |                    |              |                   |
|                          | AE                   | 2002/<br>0107810                       | 08/08/02                | Nishio et al                        |  |                    |                    |              |                   |
|                          | AF                   | 2003/<br>0014600                       | 01/16/03                | Ito et al                           |  |                    |                    |              |                   |
|                          | AG                   | 2004/<br>0010563                       | 01/15/04                | Forte et al                         |  |                    |                    |              |                   |
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|                         | AA  | 6,148,368                           | 11/14/00                 | DeKoning                         |  |                |  |              |                   |  |
|                         | АВ  | 6,341,331                           | 01/22/02                 | McNutt                           |  |                |  |              |                   |  |
|                         | AC  | 6,347,358                           | 02/12/02                 | Kuwata                           |  |                |  |              |                   |  |
|                         | AD  | 2003/<br>0196055                    | 10/16/03                 | Kamano et al                     |  |                |  |              |                   |  |
|                         | ΑE  | 2004/<br>0111557                    | 06/10/04                 | Nakatani et a                    | 1  |                |  |              |                   |  |
|                         | AF  | 2004/<br>0139168                    | 07/15/04                 | Tanaka et al                     |  |                |  |              |                   |  |
|                         | AG  | 2004/<br>0193803                    | 09/30/04                 | Mogi et al                       |  |                |  |              |                   |  |
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|                                       | AA       | 6,484,173   | 11/19/02                           | O'Hare et al        |                                  |                          |          |          |                  |
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|                       | AA  | 2003/<br>0115218          | 06/2003                    | Bobbitt et al                    |   |                   |                          |             | •                   |
|                       | АВ  | 6,542,961                 | 04/01/03                   | Matsunami                        |   |                   |                          |             |                     |
|                       | AC  | 6,606,695                 | 08/12/03                   | Kamano                           |   |                   |                          |             |                     |
|                       | AD  | 2004/<br>0153605          | 08/05/04                   | Nakamura                         |   |                   |                          |             |                     |
|                       | AE  | 2003/<br>0229698          | 12/11/03                   | Furahashi                        |   |                   |                          |             |                     |
|                       | AF  | 2003/<br>0120743          | 06/26/03                   | Coatney                          |   |                   |                          | -           |                     |
|                       | AG  | 2003/<br>0115282          | 06/19/03                   | Rose                             |   |                   |                          |             |                     |
|                       | АН  | 2004/<br>0153710          | 08/05/04                   | Fair                             |   |                   |                          |             |                     |
|                       | AI  | 6,718,481                 | 04/06/04                   | Fair                             |   |                   |                          |             |                     |
|                       | AJ  |                           |                            |                                  |   |                   |                          |             |                     |
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|                       | AL  | 1321848                   | 12/20/02                   | EP                               |   |                   |                          | $\boxtimes$ |                     |
|                       | АМ  | 2002-<br>230189           | 08/2002                    | JP (with Engli                   | sh Abstract)                                |                   |                          |             |                     |
|                       | AN  | 2003 <i>-</i><br>30053    | 1/2003                     | JP (with Engli                   | sh Abstract)                                |                   |                          |             |                     |
|                       | АО  |                           |                            |                                  |   |                   |                          |             |                     |
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|                       |   | •                         | OTHER DOCU                 | MENTS (Including Auti            | hor, Title, Date, Pertinent Pa              | ages, etc.)       |                          |             |                     |
|                       | AR  | Swartz                    | , K., "Mult                | tiple Volumes a                  | nd Multiple RAID G                          | roups on          | NetApp Fl                | iers"       | ',                  |
|                       | \alpha\cdot\  | Networ                    | k Applicano                | ce Report TR 302                 | 27, no date, from (                         | Google ca         | che onlin                | ie.         |                     |
|                       | AS  | Rangel                    | , G., "Hita                | achi Freedom Sto                 | orage: Thunder 9200                         | Archite           | cture and                | l           |                     |
|                       | "   | Perform                   | mance Confi                | iguration Guidel                 | lines", Hitachi Dat                         | a System          | s, 2001,                 | pp.1        | -27.                |
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|                                | AA        | 6,594,775                            | 07/15/03                             | Fair  |  |                     |                     |               |                   |
|                                | АВ        | 6,691,209                            | 02/10/04                             | O'Connell   |  |                     |                     |               |                   |
|                                | AC        | 6,865,157                            | 03/08/05                             | Scott   |  |                     |                     |               |                   |
|                                | AD        | 6,904,470                            | 06/07/05                             | Ofer  |  |                     |                     |               |                   |
|                                | AE        | 5,973,690                            | 10/26/99                             | Ofer  |  |                     |                     |               |                   |
|                                | AF        | 6,507,896                            | 12/14/03                             | Sanada  |  |                     |                     |               |                   |
|                                | AG        | 2004/<br>0168033                     | 08/26/04                             | Sanada  |  |                     |                     |               |                   |
|                                | АН        | 6,523,096                            | 02/18/03                             | Sanada  |  |                     |                     |               |                   |
|                                | AI        | 2002/<br>0083285                     | 06/27/02                             | Sanada  |  |                     |                     |               |                   |
|                                | AJ        | 6,609,180                            | 08/18/03                             | Sanada  |  |                     |                     |               |                   |
|                                |           | 2002/<br>0010843                     | 01/24/02                             | Sanada  |  |                     |                     |               |                   |
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|             | AA   | 6,728,844                 | 04/27/04                 | Sanada                          |  |                  |                     |         |                |
|             | АВ   | 2001/<br>0011333          | 08/02/01                 | Sanada                          |  |                  |                     |         |                |
|             | AC   | 2001/<br>0011332          | 08/02/01                 | Sanada                          |  |                  |                     |         |                |
|             | AD   | 6,877,073                 | 08/05/05                 | Sanada                          |  |                  |                     |         |                |
|             | AE   | 2001/<br>0008010          | 07/12/01                 | Sanada                          |  |                  |                     |         |                |
|             | AF   | 2005/<br>0172052          | 08/04/05                 | Sanada                          |  |                  |                     |         |                |
|             | AG   | 6,910,102                 | 06/21/05                 | Matsunami                       |  |                  |                     |         |                |
|             | АН   | 6,701,410                 | 03/02/04                 | Matsunami                       |  |                  |                     |         |                |
|             | AI   | 2004/<br>0158673          | 08/12/04                 | Matsunami                       |  |                  |                     |         |                |
|             | AJ   | 2005/<br>0033914          | 02/10/05                 | Matsunami                       |  |                  |                     |         |                |
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|                          |          | 6,701,411                | 03/02/04                 | Matsunami                             |   |                   | ļ                   | ļ          |            |    |
|                          | AB       | 6,851,029                | 02/01/05                 | Matsunami                             |   |                   |                     |            |            |    |
|                          | AC       | 2002/<br>0091898         | 07/11/02                 | Matsunami                             |   |                   |                     |            |            | _  |
|                          | AD       | 2002/<br>0095549         | 07/18/02                 | Matsunami                             |   |                   |                     |            |            |    |
|                          | AE       | 2003/<br>0191910         | 10/09/03                 | Matsunami                             |   |                   |                     |            |            |    |
|                          | AF       | 2001/<br>0047463         | 11-29-01                 | Kamano                                |   |                   |                     |            |            |    |
|                          | AG       | 2004/<br>0199736         | 10/07/04                 | Kamano                                |   |                   |                     |            |            |    |
|                          | АН       | 2003/<br>0225934         | 12/04/03                 | Kaji                                  |   |                   |                     |            |            | _  |
|                          | ΑI       |                          |                          |                                       |   |                   |                     |            |            |    |
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|                         | AA        | 2002/<br>0099914         | 07/2002                 | Matsunami et                         | al:                           |                      |                 |                     | (н Арр      | ropriate)    |
|                         | АВ        | 2005/<br>0166074         | 07/2005                 | Hack, Mark I                         | Elliott                       |                      |                 |                     |             |              |
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|                                | AA                        | 6,742,034                           | 05/2004                             | Schubert et a  | 1  | <del> </del>       |                     |              |                     |
|                                | АВ                        | 2005/<br>0021727                    | 01/2005                             | Matsunami et   | al   |                    |                     |              |                     |
|                                | AC                        | 2004/<br>0215915                    | 10/2004                             | Block et al  |  |                    |                     |              |                     |
|                                | AD                        | 2002/<br>0161891                    | 10/2002                             | Higuchi et al  |  |                    |                     |              |                     |
|                                | AE                        | 2003/<br>0177176                    | 09/2003                             | Hirschfeld et  | al   |                    |                     |              |                     |
|                                | AF                        | 2004/<br>0210591                    | 10/2004                             | Hirschfeld et  | al   |                    |                     |              |                     |
|                                |                           | 2004/<br>0215859                    | 10/2004                             | Armstrong et   | al   |                    |                     |              |                     |
|                                | AH 2004/ 10/2004 Armstron |                                     |                                     |  | al   |                    |                     | <u> </u>     |                     |
|                                | AI                        | 2004/<br>0181589                    | 09/2004                             | Suleiman, Yas  | er I.  |                    |                     |              |                     |
| i                              | AJ                        | 6,839,796                           | 01/2005                             | Dawson et al   |  |                    |                     |              |                     |
| <u> </u>                       | AK                        | 2003/<br>0115438                    | 06/2003                             | Mahalingam et  | al   |                    |                     |              |                     |
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|  |           |                                      |                                       | U.S. PATENT                             | DOCUMENTS                                     |                  |                          |              |                      |  |
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|  | AA        | 2005/<br>0005064                     | 01/2005                               | Ito et al                               |   |                  |                          |              |                      |  |
|  | AB        | 6,684,209                            | 01/2004                               | Ito et al                               |   |                  |                          |              |                      |  |
|  | AC        | 2002/<br>0052914                     | 05/2002                               | Zalewski et a                           | 1   |                  |                          |              |                      |  |
|  | AD        | 2004/<br>0003063                     | 01/2004                               | Ashok et al                             |   |                  |                          |              |                      |  |
|  | AE        | 2004/<br>0212511                     | 10/2004                               | Ahrens et al                            |   |                  |                          |              |                      |  |
|  | AF        | 2005/<br>0050085                     | 03/2005                               | Shimada et al                           |   |                  |                          |              |                      |  |
|  | AG        | 6,343,324                            | 01/2002                               | Hubis et al                             |   |                  |                          |              |                      |  |
|  | АН        | 2004/<br>0163028                     | 08/2004                               | Olarig                                  |   |                  |                          |              |                      |  |
|  | ΑI        | 6,690,400                            | 02/2004                               | Moayyad et al                           |   |                  |                          |              |                      |  |
|  | AJ        |                                      |                                       |   |   |                  |                          |              |                      |  |
|  | AK        |                                      |                                       |   |   |                  |                          |              |                      |  |
|  |           |                                      |                                       | FOREIGN PATE                            | NT DOCUMENTS                                  |                  |                          |              |                      |  |
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|  | AL        |                                      |                                       |   |   |                  |                          |              |                      |  |
|  | АМ        |                                      |                                       |   |   |                  |                          | <del>-</del> |                      |  |
|  | AN        |                                      |                                       |   |   |                  |                          |              | П                    |  |
|  | АО        |                                      |                                       |   |   |                  |                          |              |                      |  |
|  | ΑР        |                                      |                                       |   |   | *                |                          | П            | П                    |  |
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|  |                  | 2001/<br>0027501          | 10/2001                 | O'Hare et al                       |  |                          |                     |                                 |              |  |
|  | AB               | 2001/<br>0020254          | 09/2001                 | Blumenau et                        | al   |                          |                     |                                 |              |  |
|  |                  |                           | 06/1998                 | Benantar et                        | al   |                          |                     |                                 |              |  |
|  | AD               | 2005/<br>0120171          | 06/2005                 | Yasukawa et                        | al   |                          |                     |                                 |              |  |
|  | AE               | 2005/<br>0149677          | 07/2005                 | Shimada et a                       | ıl   |                          |                     |                                 |              |  |
|  | AF               |                           |                         |                                    |  |                          |                     |                                 |              |  |
|  | AG               |                           |                         |                                    |  |                          |                     |                                 |              |  |
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|  | AL               | 2002-<br>259214           | 2002                    | JAPAN                              |  |                          |                     |                                 |              |  |
|  | АМ               | 1341074                   | 2003                    | EUROPE                             |  |                          |                     |                                 |              |  |
|  | AN               |                           |                         |                                    |  |                          |                     |                                 |              |  |
|  | АО               |                           |                         |                                    |  |                          |                     |                                 |              |  |
|  | AP               | <u> </u>                  |                         |                                    |  |                          |                     |                                 |              |  |
|  |                  |                           | OTHER DOCU              | JMENTS (Including A                | Author, Title, Date, Pertiner              | nt Pages, etc.)          |                     |                                 |              |  |
| ļ  | AR               |                           |                         | Protection" Ope<br>1974, pp. 18-24 | erating Systems Re                         | eview, ACM F             | ress, XX,           | vol.                            | . 8,         |  |
|  | Ш                |                           |                         |                                    |  |                          |                     | <u></u>                         |              |  |
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|                               | AA            | 6,898,672   | 05/24/05                  | Lambright et al                |                                    |                   |            |                       |              |              |
|                               | АВ            | 2004/<br>0088417  | 05/06/04                  | Bober et al                    |                                    |                   |            |                       |              |              |
|                               | AC            | 6,457,102   | 09/24/02                  | Lambright et                   | al                                 |                   |            |                       |              |              |
|                               | AD            | 2003/<br>0005456  | 01/2003                   | Naganuma et a                  | 1                                  |                   |            |                       | -            |              |
|                               | ΑE            |   |                           |                                |                                    |                   |            |                       |              |              |
|                               | AF            |   |                           |                                |                                    |                   | -          |                       |              |              |
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|                               | AL            | 2003-<br>157177   | 05/30/03                  | JP (with English Abstract)     |                                    |                   |            |                       |              |              |
|                               | АМ            |   |                           |                                |                                    |                   |            |                       |              |              |
|                               | AN            |   |                           |                                |                                    |                   |            |                       |              |              |
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| EVALUES                       |               |   |                           |                                |                                    |                   |            |                       |              |              |
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